



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2014-0308; Directorate Identifier 2014-CE-012-AD]

RIN 2120-AA64

Airworthiness Directives; M7 Aerospace LLC Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for M7 Aerospace LLC Models SA227-AT, SA227-AC, SA227-BC, SA227-CC, and SA227-DC airplanes equipped with a bayonet shear pin main cabin door latching mechanism. This proposed AD was prompted by fatigue cracks found in the internal door surround doubler, the external skin fuselage skin, and the door corner fittings at the fuselage upper forward corner of the main cabin door cutout. This proposed AD would require repetitively inspecting the four corners of the main cabin door cutout for cracks, making necessary repairs, and reporting inspection results to M7 Aerospace LLC. We are proposing this AD to correct the unsafe condition on these products.

DATES: We must receive comments on this proposed AD by **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact M7 Aerospace LLC, 10823 NE Entrance Road, San Antonio, Texas 78216; phone: (210) 824-9421; fax: (210) 804-7766; Internet: <http://www.elbitsystems-us.com>; email: MetroTech@M7Aerospace.com. You may review this referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0308; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the **ADDRESSES** section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Andrew McAnaul, Aerospace Engineer, FAA, ASW-150 (c/o San Antonio MIDO), 10100 Reunion Place, Suite 650, San Antonio, Texas 78216; phone: (210) 308-3365; fax: (210) 308-3370; email: andrew.mcanaul@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the **ADDRESSES** section. Include “Docket No. FAA-2014-0308; Directorate Identifier 2014-CE-012-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

We received reports of fatigue cracking of the main cabin door surround structure on several M7 Aerospace LLC Models SA227-AT, SA227-AC, SA227-BC, SA227-CC, and SA227-DC airplanes that have a bayonet shear pin type of latching mechanism for the main cabin door.

Investigation revealed that the fatigue cracks are related to a change in loading due to design changes in the door surround structure and the door latching system.

This condition, if not corrected, could result in probable decompression failure with possible loss of structural integrity of the cabin structure.

Relevant Service Information

We reviewed M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-53-005 and SA227 Series Service Bulletin 227-53-009, both dated November 15, 2013. The service information describes procedures for repetitively

inspecting the internal and external skin doublers, fuselage skin, and the fuselage door frame corner member for cracks. The service information also describes procedures for repairing the cracks. In addition, if no cracks are found, the service information also includes procedures for installing a repair kit as preventative measure to extend the inspection intervals.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require accomplishing the actions specified in the service information described previously. This proposed AD also requires sending inspection results to M7 Aerospace LLC.

Costs of Compliance

We estimate that this proposed AD affects 250 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

Estimated costs

| Action | Labor cost | Parts cost | Cost per product | Cost on U.S. operators |
|---|---|-------------------|-------------------------|-------------------------------|
| Threshold high frequency eddy current (HFEC)/low frequency eddy current (LFEC)/detailed visual inspection | 2.5 work-hours X \$85 per hour = \$212.50 | Not Applicable | \$212.50 | \$53,125 |

We estimate the following costs to do any necessary repairs that would be required based on the results of the proposed inspection. We have no way of determining the number of aircraft that might need these repairs:

On-condition costs

| Action | Labor cost | Parts cost | Cost per product |
|---------------------|---|------------|------------------|
| Repair Installation | 48 work-hours X \$85 per hour = \$4,080 | \$6,670 | \$10,750 |

Paperwork Reduction Act

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB control number. The control number for the collection of information required by this AD is 2120-0056. The paperwork cost associated with this AD has been detailed in the Costs of Compliance section of this document and includes time for reviewing instructions, as well as completing and reviewing the collection of information. Therefore, all reporting associated with this AD is mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at 800 Independence Ave., SW, Washington, DC 20591. ATTN: Information Collection Clearance Officer, AES-200.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by

prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This proposed regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended].

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

M7 Aerospace LLC: Docket No. FAA-2014-0308; Directorate Identifier 2014-CE-012-AD.

(a) Comments Due Date

We must receive comments by **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

(b) Affected ADs

None.

(c) Applicability

This AD applies to the M7 Aerospace LLC airplanes listed in paragraphs (c)(1) through (c)(5) of this AD that are equipped with a bayonet shear pin main cabin door latching mechanism and are certificated in any category. Airplanes equipped with a “click-clack” main cabin door latching mechanism are not affected by this AD. Figure 3 of M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-53-005, and M7 Aerospace LLC SA227 Series Service Bulletin 227-53-009, both dated November 15, 2013, is a picture showing both styles of latching mechanisms.

(1) Model SA227-AT airplanes, serial numbers (S/Ns) AT570 through AT631, and AT695.

(2) Model SA227-AC airplanes, S/Ns AC570 through AC788.

(3) Model SA227-BC airplanes, S/Ns BC762, BC764, BC766, and BC770 through BC789.

(4) Model SA227-CC airplanes, S/N CC827, CC829, and CC840 through CC844.

(5) Model SA227-DC airplanes, S/Ns DC784, DC790 through DC826, DC828, DC830 through DC839, and DC845 through DC904.

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America - Code 5310, Fuselage Main, Structure.

(e) Unsafe Condition

This AD was prompted by fatigue cracks found in the internal door surround doubler, the external skin fuselage skin, and the door corner fittings at the fuselage upper forward corner of the main cabin door cutout. We are issuing the AD to prevent decompression failure with possible loss of structural integrity of the cabin structure.

(f) Compliance

Comply with this AD within the compliance times specified in paragraph (g) through paragraph (k) of this AD, including all subparagraphs, unless already done.

(g) Inspections

(1) Do an initial detailed visual inspection of the fuselage upper forward corner and other 3 corners of the main cabin door cutout for cracks following Table 1 in Step 2. ACCOMPLISHMENT INSTRUCTIONS of M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-53-005 or M7 Aerospace LLC SA227 Series Service Bulletin 227-53-009, both dated November 15, 2013, as applicable. Do the inspection at the compliance times specified in paragraphs (g)(1)(i) through (g)(1)(iv) of this AD. For the purposes of this AD, owner/operators who do not track total aircraft flight cycles (TAC), use a .5 to 1 conversion, e.g., 35,000 TAC is equivalent to 17,500 hours time-in-service (TIS). For owner/operators who do not track flight cycles, use a 1 to 1 conversion, e.g., 300 flight cycles are equivalent to 300 hours TIS.

(i) For aircraft with more than 35,000 TAC, inspect within the next 300 flight cycles after the effective date of this AD.

(ii) For aircraft with 20,001 - 35,000 TAC, inspect within the next 600 flight cycles after the effective date of this AD.

(iii) For aircraft with 12,000 - 20,000 TAC, inspect within the next 1,000 flight cycles after the effective date of this AD.

(iv) For aircraft with less than 12,000 TAC, inspect at 12,000 flight cycles or within the next 1,000 flight cycles after the effective date of this AD, whichever occurs later.

(2) If no cracks are found during the inspection required by paragraph (g)(1) of this AD, repetitively thereafter at intervals not to exceed 2,000 flight cycles do a detailed visual inspection of the fuselage upper forward corner and other 3 corners of the main cabin door cutout for cracks following Table 1 in Step 2. ACCOMPLISHMENT INSTRUCTIONS of M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-53-005 or M7 Aerospace LLC SA227 Series Service Bulletin 227-53-009, both dated November 15, 2013, as applicable.

(h) Repair Cracks and Repetitively Inspect

(1) If any cracks are found during any inspection required in paragraph (g) through paragraph (i) of this AD, before further flight after the inspection in which a crack is found, repair or replace the cracked structure following Step 3. REPAIR OF CRACKED INNER DOUBLE, Step 4. REPAIR OF CRACKED FUSELAGE SKIN, and/or Step 5. REPAIR OF CRACKED CORNER FITTING of M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-53-005, or M7 Aerospace LLC SA227 Series Service Bulletin 227-53-009, both dated November 15, 2013, as applicable.

(2) If you made the repairs required in paragraph (h)(1) of this AD by installing repair kit part number (P/N) 27K24191-001, do the threshold and repeat inspections following Table 2 in Step 2. ACCOMPLISHMENT INSTRUCTIONS of M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-53-005, dated November 15, 2013; or M7 Aerospace LLC SA227 Series Service Bulletin 227-53-009, dated November 15, 2013, as applicable.

(3) If you made the repairs required in paragraph (h)(1) of this AD by replacing the fuselage skin by installing kit 27K24191-003, or if the corner fitting was replaced and no other cracks are present, repetitively thereafter inspect following Table 1 in Step 2.

ACCOMPLISHMENT INSTRUCTIONS of M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-53-005, or M7 Aerospace LLC SA227 Series Service Bulletin 227-53-009, both dated November 15, 2013, as applicable.

(i) Extend Repetitive Inspection Intervals

After any inspection required in paragraph (g)(1) and (g)(2) of this AD and no damage, defects, or cracks are found, you may install repair kit P/N 27K24191-001 following Step 6. ADDITION OF KIT DRAWING REPAIR MEMBERS AS PREVENTATIVE ACTION of M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-53-005, or M7 Aerospace LLC SA227 Series Service Bulletin 227-53-009, both dated November 15, 2013, as applicable, to extend the inspection intervals. After installing repair kit P/N 27K24191-001 do the threshold and repeat inspections following Table 3 of Step 2. ACCOMPLISHMENT INSTRUCTIONS of M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-53-005, or M7 Aerospace LLC SA227 Series Service Bulletin 227-53-009, both dated November 15, 2013, as applicable.

(j) Reporting Requirement

Within 30 days after any inspection required by paragraph (g) through paragraph (i) of this AD where a crack or any other damage is found, report the results of that inspection to M7 Aerospace LLC following the instructions specified in Step 2.I. of the ACCOMPLISHMENT INSTRUCTIONS of M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-53-005, dated November 15, 2013; or Step 2.J. of the ACCOMPLISHMENT INSTRUCTIONS of M7 Aerospace LLC SA227 Series Service Bulletin 227-53-009, dated November 15, 2013, as applicable.

(k) Credit for Previous Repairs

As of the effective date of this AD, owner/operators who had the initial inspection and any resulting repairs done before the effective date of this AD using procedures different from those specified in M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-53-005, dated November 15, 2013; and M7 Aerospace LLC SA227 Series Service Bulletin 227-53-009, dated November 15, 2013, may apply for an alternative method of compliance (AMOC) following the instructions in paragraph (m) of this AD.

(l) Paperwork Reduction Act Burden Statement

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to be approximately 5 minutes per response, including the time for reviewing instructions, completing and reviewing the collection of information. All responses to this collection of information are mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at: 800 Independence Ave. SW, Washington, DC 20591, Attn: Information Collection Clearance Officer, AES-200.

(m) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Fort Worth Airplane Certification Office, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal

inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in the Related Information section of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(n) Related Information

(1) For more information about this AD, contact Andrew McAnaul, Aerospace Engineer, FAA, ASW-150 (c/o San Antonio MIDO), 10100 Reunion Place, Suite 650, San Antonio, Texas 78216; phone: (210) 308-3365; fax: (210) 308-3370; email: andrew.mcanaul@faa.gov.

(2) For service information identified in this AD, contact M7 Aerospace LLC, 10823 NE Entrance Road, San Antonio, Texas 78216; phone: (210) 824-9421; fax: (210) 804-7766; Internet: <http://www.m7aerospace.com>; email: MetroTech@M7Aerospace.com. You may view this referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call 816-329-4148.
Issued in Kansas City, Missouri on May 7, 2014.

Timothy Smyth,
*Acting Manager, Small Airplane Directorate,
Aircraft Certification Service.*

BILLING CODE 4910-13-P

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